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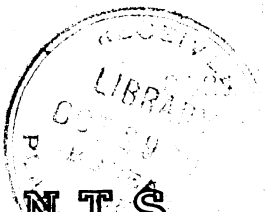

PLANT IMMIGRANTS.

No. 139. NOVEMBER, 1917.

GENERA REPRESENTED IN THIS NUMBER.

	Page		Page
Aleurites	1247	Holcus	1249
Annona	1247	Persea	1249, 1250
Castanea	1247, 1248	Polygonum	1251
Chayota	1248	Pyrus	1252
Citrus	1248	Saccharum	1251
Cryptotaenia	1252		

Plates:

Pl. 227. A Guatemalan Avocado Ripening in August, *Persea americana*.

228. Guatemalan Jocotes, Spondias Mombin, *Spondias purpurea*.

Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

October 5, 1918.

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Aleurites trisperma (Euphorbiaceae), 45480. **Soft lumbang** From Philippine Islands. Presented by Mr. Adn. Hernandez, Director of Agriculture, Manila, P. I. "**Soft lumbang** is one of the Philippine names given to this species to distinguish it from the true lumbang, *Aleurites moluccana*. It is a strictly tropical species of very limited distribution and is reported to fruit rather irregularly. The shell of the seed is much thinner and more easily broken than that of *A. moluccana*, and the oil obtained from the kernel is said to be very similar in drying properties to that of *A. fordii*, the tung oil tree of China." (R. A. Young.)

Annona marcgravia (Annonaceae), 45231. From Caracas, Venezuela. Presented by Mr. Henri Pittier, Director, Estacion Experimental y Catastro de Baldios. A tree with the trunk, form of the branches and color of the bark resembling those of the orange, but with different leaves, flowers and fruit. Its leaves are about one-half foot long, deep green and glossy above, pale green beneath, and tongue-shaped. The yellow flower is large and conspicuous, and has a sickening sweet odor. It is followed by the fruit, which ripens in December and January. This fruit, which is conoid in shape and about 5 inches in greatest diameter, is green and white mixed, or pale green on the outside, and the surface is areoled, with a brown tubercle on each areole. Not until the fruit falls of its own accord is it eaten, and then it is so soft that it can be peeled with the fingers. The yellowish pulp has an odor like fermenting bread dough, to which honey has been added, with a sweetish subacid and somewhat bitter taste. The seeds are oval, golden yellow and glossy, smooth and hard. This tree is a native of Brazil and Venezuela. (Adapted from Safford, Contributions from the National Herbarium, vol. 18, part 1, pp. 25-28, from Pisco and Marcgrave's description of the Brazilian "**araticu ponhe**", in 1648.)

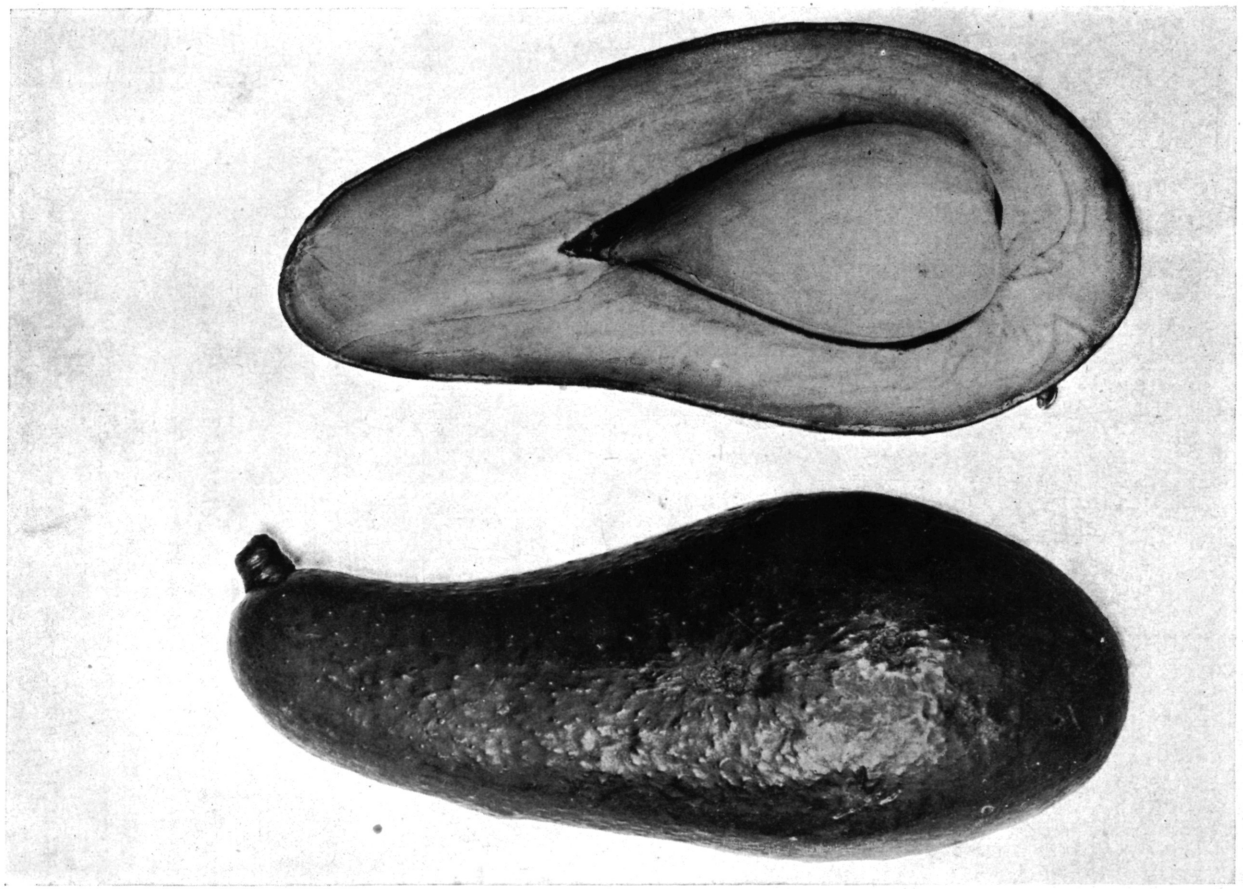
Castanea crenata (Fagaceae), 45334. **Chestnut.** From Bell, Maryland. Presented by Dr. W. Van Fleet, of this Bureau. Bell No. 1. Fourth generation by straight selection. Started by a variety cross between two early, prolific types of *C. crenata*. Very large nut, with good cooking qualities, but poor eating qualities when raw. The tree has a good habit, with thin, handsome branches. The trunk is clean and bright. Leaves very narrow. Dr. Van Fleet has about 40 trees of this selection.

Castanea crenata (Fagaceae), 45337. **Chestnut.** From Bell, Maryland. Presented by Dr. W. Van Fleet, of this Bureau. Bell No. 4. Fourth generation, by selection. The trees have very much the same habit as S. P. I. No. 45334, 45335 and 45336, and the nuts are about the same size—very large. The nuts have good eating qualities, and are better than those of the numbers referred to above. This number is eminently worthy of propagation and dissemination.

Chayota edulis (Cucurbitaceae), 45540. **Chayote.** From Guatemala. Collected by Mr. Wilson Popenoe, Agricultural Explorer for this Department. "(No. 197a. Guatemala, Guatemala, November 7, 1917.) **Guisquil de Santa Maria.** Locally considered one of the very best varieties. It is a short, broad fruit, compressed on the sides, and weighing from 12 ounces to a pound. The surface is smooth, free from corrugations, pale to bright green in color. Green-fruited guisquiles are considered by the Guatemalans to have more flavor than the white-fruited varieties. All smooth, small to medium-sized guisquiles are called **peruleros**; the spiny or rough fruits are termed simply guisquil, in most instances. Occasionally they have distinguishing names, such as **guisquil de Santa Maria.**" (Popenoe.)

Chayota edulis (Cucurbitaceae), 45541. **Chayote.** From Guatemala. Collected by Mr. Wilson Popenoe, Agricultural Explorer for this Department. "(No. 198a. Guatemala, Guatemala. November 7, 1917.) Large **white perulero.** Probably the best of the **perulero guisquiles.** A pear-shaped, waxy-white fruit without prickles, and with a surface free from wrinkles or corrugations. Weight about 5 ounces. One of the rarest varieties in the market." (Popenoe.)

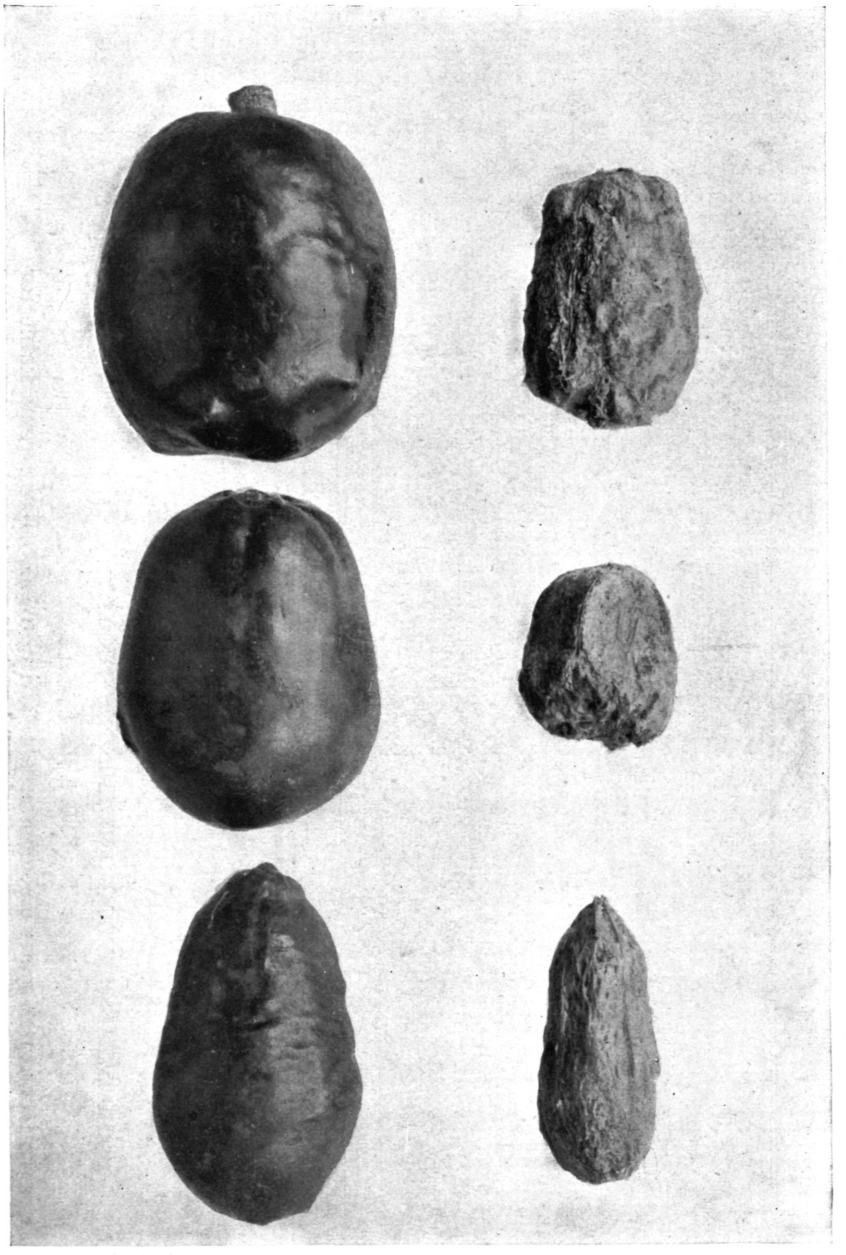
Citrus grandis (Rutaceae), 45249. **Pummelo.** From Kerman, Persia. Presented by J. N. Merrill, Captain, Commanding First Regiment of Cavalry, Persian Army. "Seeds of the Persian 'pumaloe', a fruit like that of China and the Philippines, about 8 or more inches in diameter, with a skin that is spongy, very thick, and oily. The fruit is slightly bitter and acid, but not disagreeable to the taste. Used by the Persians as a decorative fruit; a preserve made by boiling the skin with sugar is highly esteemed. The fruit is grown at Khabis, some 65 miles east of here, elevation 1,800 feet, near the edge of the great desert of Persia.



A GUATEMALAN AVOCADO RIPENING IN AUGUST.

(*Persea americana.* See S. P. I. No. 45505.)

The Akbal avocado is a variety from Amatitlan, Guatemala (altitude 3,900 feet), remarkable for its earliness in ripening. As will be observed, its form is rather objectionable, being longer and more slender than is considered ideal by American avocado growers, but its quality is excellent. In Guatemala it ripens in August and September, while most of the varieties in the same region do not commence to ripen before January or February. For this reason it is thought that the Akbal variety may be of value for California, where early-ripening varieties of the Guatemalan race are much desired. (Photographed by Wilson Popenoe, Guatemalan collection No. 32, at Amatitlan, Guatemala, November 8, 1917; P17411FS.)



GUATEMALAN JOCOTES, SPONDIAS MOMBIN.

(*Spondias purpurea.* See S. P. I. No. 11007.)

One of the commonest and most popular fruits of the Guatemalan highlands. It is most abundant between the altitudes of 2,000 and 6,000 feet. There are many varieties, or more properly speaking, seedling races. The three here shown are the best known: the upper one is called *jocote de corona*, the one in the center *jocote amarilla*, and the lower one *jocote largo*. The *jocote de corona* is by far the best of the three. Its color is an attractive yellow and scarlet, and it has an aromatic, almost pungent flavor resembling that of the cashew (*Anacardium occidentale*). The *jocote amarilla* is rather inferior in quality, but it is much used when boiled. The *jocote largo* is very similar in character to *jocote amarilla*, and both are deep orange yellow in color. The jocotes are easily propagated by cuttings, and bear most profusely. The large seed is an undesirable feature, but superior varieties are occasionally seen and merit vegetative propagation. (Photographed by Wilson Popenoe, Guatemala City, Guatemala, October 4, 1916; P16836FS.)

Personally, I found the fruit, when eaten with powdered sugar, a good dish, though the Persians do not eat it." (Merrill.)

Holcus sorghum (Poaceae), 45348. **Kafir corn.** From Johannesburg, South Africa. Presented by Mr. J. Burtt-Davy, Botanist, Agricultural Supply Association. "Kafir corn grown by natives in the Vereeniging District of the Transvaal and claimed by them to be earlier in maturing than any other sorts grown in the neighborhood. This strain may prove of immense value in areas having a short growing season. The rainfall at Vereenigning averages about 27 inches and comes almost entirely in the summer." (Burtt-Davy.)

Persea americana (Lauraceae), 45505. **Avocado.** From Guatemala. Collected by Mr. Wilson Popenoe, Agricultural Explorer for this Department. "(No. 195. Avocado No. 32. **Akbal.** Guatemala, Guatemala. November 6, 1917.) This is a variety noteworthy for earliness, and it has been included in the set primarily for this characteristic. It is, however, of very good quality and has no visible defects except a slightly undesirable shape. Judging by its behavior in Guatemala, it should be the earliest variety in the collection, but it is not safe to depend upon its retaining this characteristic in the United States, since slight local variations in soil or climate sometimes affect the period of ripening very noticeably, and its earliness in Guatemala may not be altogether an inherent characteristic. This is rather a warm region, hence there is nothing to indicate that the variety will be unusually hardy. The crop harvested in the fall of 1917 was a good one. According to the owner, it was 600 fruits, but judging from its appearance while still on the tree it must have been considerably more than that. The bearing habits of the tree were only under observation for one season, but they give promise of being very satisfactory. The flowering season is in November and December, and the fruit ripens from the following August to November. It is fully ripe and in perfect condition for picking by the middle of October, whereas the average variety of the same region is not mature until January at the earliest. In two characteristics this variety does not seem to agree with the Guatemalan race. It has a very thin skin and the seed coats do not adhere closely to the cotyledons. A few other varieties showing these same

characteristics were seen in the same locality, and it is possible that they may not be true Guatemalan avocados, though in most respects they seem to belong to this race. In form this fruit is long and slender, sometimes slightly curved,and sometimes becoming pyriform. It is medium-sized, weighing about twelve ounces. The surface is quite smooth, and green in color. The skin is thin, and surrounds the thin yellow flesh, which is of very good quality and shows no fiber or discoloration. The seed is medium-sized, and while it does not rattle in its cavity, it does not fit as snugly as it does in nearly all other Guatemalan varieties." (Popenoe.)

Persea americana (Lauraceae), 45560. **Avocado**. From Guatemala. Collected by Mr. Wilson Popenoe, Agricultural Explorer for this Department. "(No. 212. Avocado No. 26. **Manik**. Guatemala, Guatemala. November 13, 1917.) A productive and rather early variety of excellent quality. It is a medium-sized fruit of pleasing form and clear yellow flesh of unusually rich flavor. The parent tree is growing in the Finca La Polvora', in Antigua, Guatemala. The elevation is about 5,100 feet. Antigua does not experience severe frosts, hence it is impossible to determine, in advance of a trial in the United States, whether or not the variety is any hardier than the average of the Guatemalan race. The flowering season is February and March. The tree blooms profusely and some years sets enormous crops of fruit. In 1917 a very heavy crop was ripened. The 1918 crop is much smaller. In general, the bearing habits of the tree give promise of being unusually good, there being a tendency for the fruits to develop in clusters. The season of ripening is properly February to June, but fruits picked early in December developed fairly good flavor upon ripening in the house. The season may be termed early to midseason. The fruit is more variable in form than that of some varieties. The range is from oval to slender pyriform, the majority of the fruits being of the latter shape, without, however, a well-defined neck. The weight varies from 8 to 12 ounces. The surface is slightly roughened, and green in color. The skin is moderately thick, the flesh rich yellow, quite free from all fiber or discoloration, and of a very rich and pleasant flavor. The seed is a trifle large in some specimens, small in others, being medium-sized or rather small on the average. It is quite tight in the seed cavity." (Popenoe.)

Polygonum tinctorium (Polygonaceae), 45605. From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2443a. Hankow, China. June 14, 1917.) An annual herb, much cultivated throughout northern and central China for the blue dye it produces, which however, fades easily. It is sown on rich lands towards the end of February, and the first cutting is made during June, and a much smaller one during August. Further north the sowing takes place later and but one cutting can be obtained. To procure the dye-material the plants are deposited in plastered pits, water is poured over them and they are allowed to decay for several weeks; then the stems are taken out and the water is allowed to evaporate. When at last the slimy mass in the pit has become sufficiently dry, quicklime is added and thoroughly mixed and the material is allowed to dry out until it can be well worked. It is then taken out and kept in tubs, barrels, and other vessels until needed for dyeing. The freshly dyed cloth posseses a most unpleasant odor, which can often be detected for a considerable distance. Slowly, however, the wind takes away the odor and garments can then be made from it. The dye seems to be used almost exclusively for the dyeing of coarse cotton cloth. Chinese name of the plant **Liao lan.**" (Meyer.)

Saccharum officinarum (Poaceae), 45519. **Sugar cane.** From Reduit, Mauritius. Presented by the Director, Department of Agriculture. **White Tanna.** This is the widest grown of all the sugar cane varieties on the Island of Mauritius, occupying forty-seven per cent of all the land given over to sugar cane raising. It is a variety which is grown equally well on the highlands or lowlands. There are two sources from which this variety came. It arose as a sport on several estates of the Colony, and has since been widely cultivated. It was also received from the Department of Agriculture of New South Wales in 1895. The present variety is probably decended in part from each of the sources mentioned above. (Adapted from Henri Robert, Sugar-Cane, Varieties in Mauritius.)

NOTES ON BEHAVIOR OF PREVIOUS INTRODUCTIONS.

Rev. Jno. B. Katzner, of Collegeville, Minnesota, in letter dated December 10, 1917, reports: "All trees and plants to succeed in Minnesota must be able to stand a cold of from 35 to 40 degrees below zero. The many varieties of pears from northern China and Manchuria I received from the United States Department of Agriculture could not endure that cold. Yet 2 varieties of pears, Nos. 21880 (*Pyrus ussuriensis*) and 21982 (*Pyrus betulae folia*), after freezing back from 3 to 4 winters became perfectly hardy and have not lost a bud since, and grafts made from them are just as hardy. These trees are now 7 feet high and may bear next season. I regret not to have kept the other varieties that long on trial. Maybe some more would have been found hardy in that time. But what is the cause of these 2 varieties becoming hardy after freezing down to the ground for several years? It may sound somewhat heterodox in horticulture, but I look at it this way: These varieties of pears along with some others coming from northern China and Manchuria, would have been hardy originally in Minnesota if they had been propagated directly in our State, but having been grown for several years in the mild, congenial climate of California, these pears have naturally lost much of their original hardiness."

Notes from Correspondents abroad.

Mr. Barbour Lathrop, writes in a recent letter: "The second lot of seed, *Cryptotaenia japonica* (Anglicized by the Yokohama Nursery Company to 'Japanese Celery' and known in Japan as 'Mitsuba') produces a vegetable that pleased my palate on the two occasions on which I tried it. It is very popular in Japan, its consumption coming next after rice and soy beans. As a crop it is very profitable. Enclosed is an article by the Nursery Company on the methods of its planting and eating. Those people say it, (Mitsuba), has not been introduced into America or any 'Western Country' - and even if it shouldn't prove a success, experiments with it would certainly be interesting and possibly our people may take to it quicker than they have to 'Udo'."

United States Department of Agrriculture.
Bureau of Plant Industry.
Office of Foreign Seed and Plant Introduction.
Washington, D. C.

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